**Reza Amani** Pakuranga heights, Auckland 2010

Mobile: 0223688977

Email: reza.amani@gmail.com

https://www.linkedin.com/in/rezaamani

Summary

A SW/HW engineer with experience in a variety of positions and fields, including embedded hardware/software implementation, system architecture, test and debug with a great track record of accomplishing projects within limited budget and time.

Technical skills

* Microcontroller hardware and software
* Analogue, digital and mixed systems
* system architecture
* Ability to translate user requirements into technical solutions
* Predict future problems and providing best solutions during design stage
* Designing and implementing test jigs
* Safety-critical programming, fault trees, IEC and AS/NZ safety standards

Software

* C, C++ and assembly
* Embedded programming within limitations
* Test and debug
* Python
* Visual C# and C++
* Developing peripheral drivers
* Driving external data-acquisition parts and measuring technical parameters
* Agile methodology, Scrum
* TDD, unit testing
* Version control software; SmartGit, Gitlab
* Familiar with Jira, ProjectPlace, …
* GCC, Common IDE’s, Eclipse, Keil, IAR, …
* Serial and wireless communication standards like RS485, RS232 and Bluetooth
* Bluetooth programming, SiLab and Nordic

Analog

* Analog circuits; design and debug
* EMC and EMI
* PCB layout considerations for reducing interference and noise
* Power supplies, filters, signal shaping
* Noise challenges in mixed systems
* Schematic and PCB
* Developing communication protocols
* DC/DC converters and battery management
* Analogue circuits simulation with LTSpice
* Electronic measurements; Spectrum-analyzer, network analyzer
* Superheterodyne, Single chip transceiver architecture, IQ modulator/demodulator
* Analog Devices solutions for sub-GHz short-range wireless communication

Soft Skills

**Problem solver:** Actively seeking and resolving technical and operational problems.

**Teamwork:** Extensive experience in team projects at different levels including small team leadership.

**Independent:** Able to work without being supervised; with preference for handle barriers in person.

**Supporter:** Eager to mentor colleagues and help them to debug their works.

**Hands-on Engineer:** Involving closely and directly in all tasks of projects.

**Time management:** committed to do the job in time with prioritising tasks and a fast pace

Attributes

* Action-oriented
* Co-operative
* Detail-oriented
* Tolerant
* Can-do attitude
* Creative
* Calm
* Avid traveller
* Logical thinker
* Seeking out new responsibilities

Experience

**R&D engineer** 2015-now

**Tru-test group, Auckland office**

Responsibilities:

* Embedded software programmer (Aventador, Aries)
* Signal processing; real-time pulse processing
* Ensuring compliance with safety standards; IEC,AS/NZ, EN
* Gathering data from field tests, simulating real data in lab
* Working on legacy codes, debugging and improving
* Code reviewing
* Supervising SW engineers (Cygnet)

Achievements:

* Configuring Bluetooth Low Energy in advanced modes, e.g. master/slave simultaneously
* Suggested a new mixed SW/HW idea for safety module to reduce TMC and TTM
* Designed and implemented new signal processing algorithms that enabled us to perform real load calculations and meet requirements of A12 standard
* Improved the cooperation between HW and SW team by a common understanding

**Embedded designer, system architecture, Analogue designer** 2005-2015

**Pardazesh Basamad Ltd.**

An agile, small size, high-tech Company performing high-level R&D projects

Responsibilities:

* HW and SW designing for DSP systems, SDR platforms
* Designing mixed systems (HW&SW); schematic and PCB
* Programming embedded systems with C
* Choosing and setting up platforms; ARM, PIC and AVR microcontrollers, Piccolo and floating point DSP’s
* Developing GUI for control applications with visual C#
* Designing and implementing serial protocols for wireless projects
* Technical negotiating with the costumer, providing solution and choosing platform
* Proof-of-Principle, Form Study and/or functional prototyping
* Working on legacy codes, debugging and improving
* Implementing battery management functions in hand-held products

Achievements:

* Designed and implemented a wide-band spread-spectrum radio link for safe and secure control of UAV’s
* Proposed an under-ground communication system based on seismic signal processing
* Introduced a new idea of combining MAC and PHY layers in a frequency-hopping Ad-Hoc radio with a state-of-the-art robust routing algorithm
* Developed a low-cost reliable embedded system to control chemical and pharmaceutical manufacturing systems with complicated processes
* Eye-catching records of budget and delivery time for 4 embedded control projects
* Suggesting a new communication system in a parking management/guidance system, led to wiring costs being halved; using WSN, Ad-Hoc and wireless technologies

**Digital electronics engineer, Driver/Firmware developer** 2002-2005

**Basamad Negar Ltd.**

Developer of laboratory and broadcast products

Responsibilities:

* Digital hardware designing; schematic and PCB
* Developing peripheral drivers for DSP and microcontroller in C and assembly
* Designing and testing analogue interfaces and high precision circuits
* Proof-of-Principle, Form Study and/or functional prototyping
* Planning and teaching costumers training courses

Achievements:

* Reached the record of 100MS/s sampling rate and 13.5 ENOB with an acquisition board
* Cut the hardware cost of future projects by 80% suggesting and developing a general purpose SDR platform

Education

**M.Sc. in Digital Electronics Engineering 2000**

**Sharif University of Technology**

**B.Sc. in Electronics Engineering 1998**

**Sharif University of Technology**

Computer Skills

Altium/ Protel 99SE Microsoft office

Keil uvision Analog Devices simulation programs

Code Vision, Keil uvision, Eclipse, AVR studio Jira, Gitlab, Git, version control systemsSimplicity Studio, SEGGER embedded IDE

Awards

3 silver medals from physics, mathematics and computer students Olympiads, 1993

2nd place in university scientific competitions among 150 students, 1998

8th place in national electrical/electronic engineering Olympiad, 2000

Outside interests

Chess (Fide Rating: 1624, Howick club team member) Team sports, volleyball

Physics Classical music

Psychology Travelling

Referees

Available on request\*